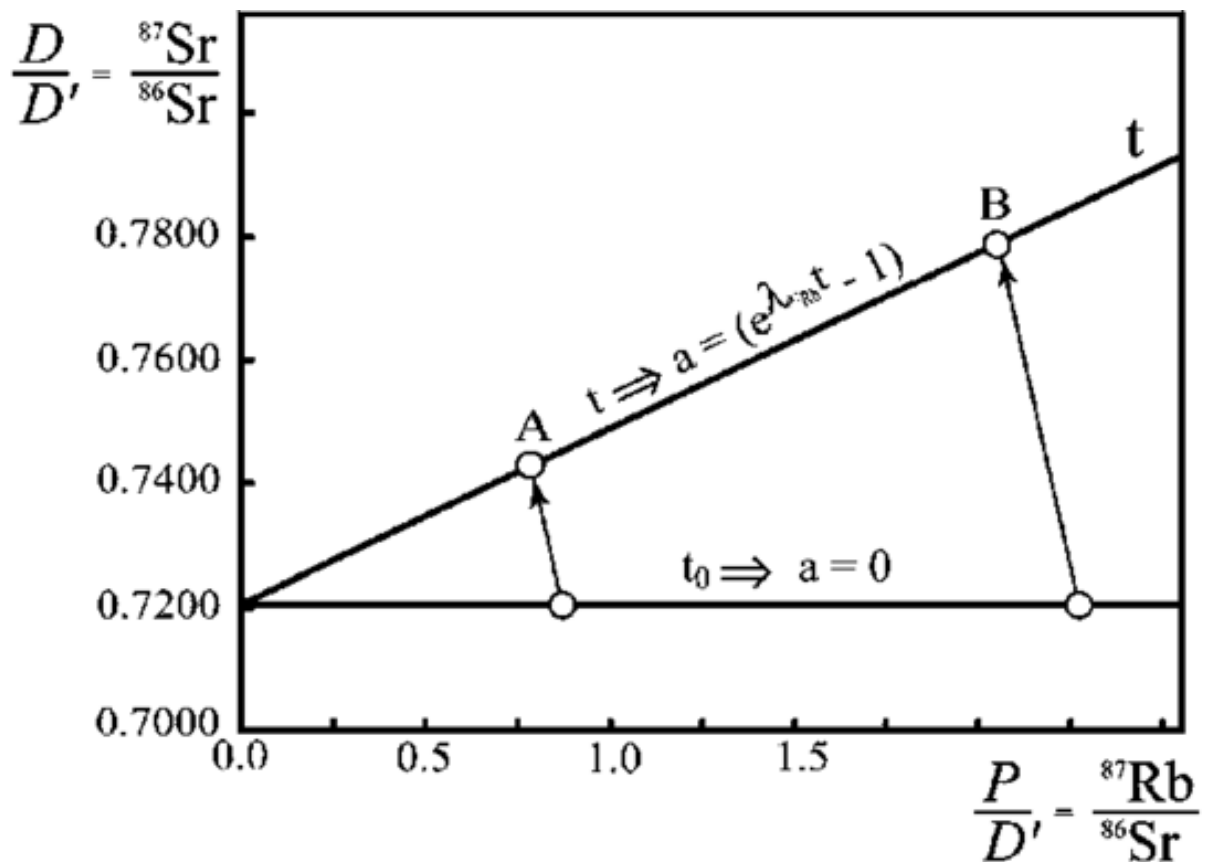


Homework: Due next Thursday [30 May 2019] at class time

Email me your answers. I do not want you to hand me your answers.

Minerals from a granite give the following values for $^{87}\text{Rb}/^{86}\text{Sr}$ and $^{87}\text{Sr}/^{86}\text{Sr}$:

Mineral	$^{87}\text{Rb}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$
Biotite	4.5	0.94682
Muscovite	3.4	0.88724
Plagioclase	0.001	0.70316
Alkali Feldspar	0.5	0.73019



(1) Plot the minerals on an isochron diagram (use a computer plotting program).

(2) Calculate the age of the rock.

(3) What was the $^{87}\text{Sr}/^{86}\text{Sr}$ at the time the rock crystallized? Which mineral most closely approaches this value. Why?

(4) Suggest a way in which the initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratio of a rock might be determined without having to produce an isochron (think in terms of the different minerals that might occur in a granite and their Rb/Sr ratio).